16557
#13 IDS

Docket No.: CIBT-P02-540
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Sampath et al.

Application No.: 09/613177 Group Art Unit: 1655

Filed: July 10, 2000 Examiner: Fredman, J.

For: METHODS AND COMPOSITIONS FOR IDENTIFYING MORPHOGEN ANALOGS

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
Washington, DC 20231

Pursuant to 37 C.F.R. 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Please charge our Deposit Account No. 18-1945 in the amount of $180.00 covering the fee set forth in 37 C.F.R. 1.17(p).

In accordance with 37 C.F.R. 1.98(d), applicants respectfully submit that no copy of any patent, publication, or other information listed on the enclosed Form PTO/SB/08 is needed because the citations were made in the prior parent application U.S.S.N. 08/764,522 filed December 12, 1996, which is relied upon for an earlier filing date under 35 U.S.C. 120.

While the information and references disclosed in this Information Disclosure Statement may be "material" pursuant to 37 CFR 1.56, it is not intended to constitute an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

Dated:

Respectfully submitted,

By _____
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Attorneys for Applicant

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PTO/SB/17 (11-01)
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FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 180.00

Complete if Known	
Application Number	09/613177
Filing Date	July 10, 2000
First Named Inventor	Sampath et al.
Examiner Name	Fredman, J.
Group Art Unit	1655
Attorney Docket No.	CIBT-P02-540

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account

Deposit Account Number: 18-1945

Deposit Account Name: Ropes & Gray

The Commissioner is hereby authorized to: *(check all that apply)*

☒ Charge fee(s) indicated below ☒ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) ($) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	-** =		x		=
Independent Claims	-** =		x		=
Multiple Dependent					=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge – late filing fee or oath	
127	50	227	25	Surcharge – late provisional filing fee or cover sheet.	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for *ex parte* reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive – unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	180.00
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR 1.129(a))	
149	740	249	370	For each additional invention to be examined (37CFR 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	
Other fee (specify)					

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 180.00

SUBMITTED BY

Complete *(if applicable)*

Name (Print/Type)	Yu Lu	Registration No. (Attorney/Agent)	50,306	Telephone	(617) 951-7268
Signature				Date	

Form PTO/SB/08

INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Docket Number (Optional)	Application Number
CIBT-P02-540	09/613,177
Applicant	
Sampath et al.	
Filing Date	**Group Art Unit**
July 10, 2000	1655

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER		DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	5,578,708	11/26/96	Ozazaki et al.			
	AB	5,665,543	9/9/97	Foulkes et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER		DATE	COUNTRY	CLASS	SUBCLASS	Translation YES	Translation NO
	AC	WO 93/05172	3/18/93	PCT				
	AD	WO 95/11983	5/4/95	PCT				
	AE	WO 95/14104	5/26/95	PCT				
	AF	WO 95/33831	12/14/95	PCT				
	AG	WO 96/08197	3/21/96	PCT				
	AH	WO 96/34101	10/31/96	PCT				
	AI	WO 96/34951	11/7/96	PCT				
	AJ	WO 96/38590	12/5/96	PCT				
	AK	WO 97/05285	2/13/97	PCT				
	AL	WO 97/05241	2/13/97	PCT				

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages Etc.)*

	AM	Asahina et al. Human Osteogenic Protein-1 Induces Both Chondroblastic and Osteoblastic Differentiation of Osteoprogenitor Cells Derived from Newborn Rat Calvaria. *J. Cell Biol.* 123, 921-933 (1993).
	AN	Asahina et al. Human Osteogenic Protein-1 Induces Chondroblastic, Osteoblastic, and/or Adipocytic Differentiation of Clonal Murine Target Cells. *Exp. Cell Res.* 222, 38-47 (1996).
	AO	Bogdanovic et al. Upstream Regulatory Elements Necessary for Expression of the Rat COL1A1 Promoter in Transgenic Mice. *J. Bone & Min. Res.* 9, 285-292 (1994).
	AP	Carey et al. Expression of Bone Morphogenetic Protein-6 Messenger RNA in Bovine Growth Plate Chondrocytes of Different Size. *J. Bone & Min. Res.* 10, 401-405 (1995).
	AQ	Chen et al. Bovine Articular Chondrocytes do not Undergo Hypertrophy when Cultured in the Presence of Serum and Osteogenic Protein-1. *Biochem. & Biophys. Res. Comm.* 197, 1253-1259 (1993).
	AR	Chen et al. Osteogenic Protein-1 Promotes Growth and Maturation of Chick Sternal Chondrocytes in Serum-Free Cultures. *J. Cell Sci.* 108, 105-114 (1995).

COPY OF PAPERS ORIGINALLY FILED

Form PTO/SB/08 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)	Docket Number (Optional) CIBT-P02-540	Application Number 09/613,177
	Applicant Sampath et al.	
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	AS	Ducy et al. Two distinct osteoblast specific cis-acting elements control expression of a mouse osteocalcin gene. *Mol. Cell. Biol.* 15, 1858-1869 (1995).
	AT	Elima et al. The Mouse Collagen X Gene: Complete Nucleotide Sequence, Exon Structure and Expression Pattern. *Biochem J.* 289, 247-253 (1993).
	AU	Galera et al. C-Krox Binds tto Several Sites in the Promoter of Both Mouse Type I Collagen Genes: Structure/Function Study and Development Expression Analysis. *J. Biol. Chem.* 271, 21331-21339 (1996).
	AV	Galera et al. C-Krox a Transcriptional Regulator of Type I Collagen Gene Expression is Preferentially Expressed in Skin. *PNAS* 91, 9372-9376 (1994).
	AW	Geoffroy et al. A PEBP2 alpha/AML-1-Related Factor Increases Osteocalcin Promoter Activity Through its Binding to an Osteoblast-Specific cis-Acting Element. *J. Biol. Chem.* 270, 30973-30979 (1995).
	AX	Ghosh-Choudhury et al. Immortalized Murine Osteoblasts Derived from BMP 2-T-Antigen Expressing Transgenic Mice. *Endocrinology* 137, 331-339 (1997).
	AY	Harada et al. Characterization of the Osteogenic Protein-1 Response Element in the Type X Collagen Promoter. *Mol. Biol. Cell* 6, Suppl. 393a: Abstract No. 2284 (1995).
	AZ	Harada et al. Characterization of the Osteogenic Protein-1 Response Region in the Type X Collagen Promoter. *Bone* 17, 590: Abstract No. 124 (1995).
	BA	Harada et al. Identification of an AP-1 Like Response Region for Osteogenic Protein-1 in Type X Collagen Promoter. Abstract Distributed at N.Y. Academy of Sciences, Molecular and Developmental Biology of Cartilage (September 27-30, 1995).
	BB	Harada et al. Induction of Vascular Endothelial Growth Factor by Osteogenic Protein 1 in vitro and in vivo. *Am. Soc. Bone & Min Res.* 10, Suppl. 1: Abstract No. T268 (1995).
	BC	Harada et al. Osteogenic Protein 1 Stimulates Type X Collagen Promoter Via a Fos Family Protein. *Am. Soc. Bone & Min. Res.* 10, Suppl. 1: Abstract No. T345 (1995).
	BD	Harada et al. Osteogenic Protein-1 Up-Regulation of the Mouse Collagen X Promoter Activity is Mediated by a MEF-2 Like Sequence and Requires an Adjacent AP-1 Sequence. *Mol. Endocrinol.* 11, 1832-1845 (Nov. 1997).
	BE	Harris et al. Recombinant Bone Morphogenetic Protein 2 Accelerates Bone Cell Differentiation and Stimulates BMP-2 mRNA Expression and BMP-2 Promoter Activity in Primary Fetal Rat Calvarial Osteoblast Cultures. *Mol. & Cell. Differentiation* 3, 137-155 (1995).
	BF	Katagiri et al. Bone Morphogenetic Protein-2 Converts the Differentiation Pathway of C2C12 Myoblasts into the Osteoblast Lineage. *J. Cell Biol.* 127, 1755-1766 (1994).
	BG	Knutsen et al. Osteogenic Protein-1 Stimulates Proliferation and Differentiation of Human Bone Cells in Vitro. *Biochem. & Biophys. Res. Comm.* 194, 1352-1358 (1993).
	BH	Knutsen et al. Regulation of Insulin-like Growth Factor System Components by Osteogenic Protein-1 in Human Bone Cells. *Endocrinology* 136, 857-865 (1995).
	BI	Lagna et al. Partnership between DPC4 and SMAD proteins in TGF-β signaling pathways. *Nature* 383, 832-836 (1996).

Form PTO/SB/08 **INFORMATION DISCLOSURE CITATION IN AN APPLICATION** *(Use several sheets if necessary)*	Docket Number (Optional) CIBT-P02-540	Application Number 09/613,177
	Applicant Sampath et al.	
	Filing Date July 10, 2000	Group Art Unit 1655

	BJ	Lee et al. Purified Transcription Factor AP-1 Interacts with TPA-Inducible Enhancer Elements. *Cell* 49, 741-752 (1987).
	BK	Liu et al. Simultaneous Detection of Multiple Bone-Related mRNAs and Protein Expression During Osteoblast Differentiation: Polymerase Chain Reaction and Immunocytochemical Studies at the Single Cell Level. *Dev. Biol.* 166, 220-234 (1994).
	BL	LuValle et al. Multiple Negative Elements in a Gene that Codes for an Extracellular Matrix Protein Collagen X, Restrict Expression to Hypertrophic Chondrocytes. *J. Cell Biol.* 5, 1173-1179 (1993).
	BM	Maliakal et al. Osteogenic Protein-1 (BMP-7) Inhibits Cell Proliferation and Stimulates the Expression of Markers Characteristic of Osteoblast Phenotype in Rat Osteosarcoma (17/2.8) Cells. *Growth Factors* 11, 227-234 (1994).
	BN	Massague, J. TGFβ Signaling: Receptors, Transducers, and Mad Proteins. *Cell* 85, 947-950 (1996).
	BO	Merriman et al. The tissue specific nuclear matrix protein NMP-2 is a member of the AML/CBF/PEBP2/ runt domain transcription factor family: interactions with the osteocalcin gene promoter. *Biochem.* 34, 13125-13132 (1995).
	BP	Michiels et al. Retroviruses and Oncogenes Associated with Osteosarcomas. *Osteosarcoma in Adolescents and Young Adults.* G. Bennett Humphrey, ed. Kluwer Academic Publishers, Boston, MA (1993).
	BQ	Ohta et al. Bone Morphogenetic Proteins (BMP-2 and BMP-3) Induce the Late Phase Expression of the Proto-Oncogene c-fos in Murine Osteoblastic MC3T3-E1 Cells. *FEBS Letters* 314, 356-360 (1992).
	BR	Orkin et al. Report and Recommendations of the Panel to Assess the NIH Investment in Research on Gene Therapy. (7 December 1995).
	BS	Rosen et al. Responsiveness of Clonal Limb Bud Cell Lines to Bone Morphogenetic Protein 2 Reveals a Sequential Relationship Between Cartilage and Bone Cell Phenotypes. *J. Bone & Min. Res.* 9, 1759-1768 (1994).
	BT	Rossert, J. A. et al. Identification of a minimal sequence of the mouse pro-alpha 1(I) collagen promoter that confers high-level osteoblast expression in transgenic mice ant that binds a protein selectively present in osteoblasts. *PNAS* 93, 1027-1031 (1996).
	BU	Sassone-Corsi. Signaling Pathways and c-fos Transcriptional Response – Links to Inherited Diseases. *N.E. J. Med.* 322, 1576-1577 (1995).
	BV	Satoh et al. Effect of Drugs on Gene Expression in Mammalian Cells: A Highly Efficient Procedure to Test Large Numbers of Samples. *Nucl. Acids Res.* 21, 4429-4430 (1993).
	BW	Solursh, M. et al. Osteogenic Protein-1 is Required for Mammalian Eye Development. *Biochem. Biophys. Res. Comm.* 218, 438-443 (1996).
	BX	Strong et al. The Effects of the Insulin-Like Growth Factors and Transforming Growth Factor β on the Jun Proto-Oncogene Family in MC3T3-E1 Cells. *Calcif. Tissue Int.* 55, 311-315 (1994).
	BY	Thomas et al. Sequence Comparison of Three Mammalian Type-X Collagen Promoters and Preliminary Functional Analysis of the Human Promoter. *Gene* 2, 291-296 (28 July 1995).
	BZ	Topping et al. Bone Morphogenetic Proteins Increase Type X Collagen Synthesis in vivo. *J. Cell Biochem.* Abstract No. 17E: 166 (1993).

Form PTO/SB/08	Docket Number (Optional)	Application Number
INFORMATION DISCLOSURE CITATION IN AN APPLICATION *(Use several sheets if necessary)*	CIBT-P02-540	09/613,177
	Applicant: Sampath et al.	
	Filing Date: July 10, 2000	Group Art Unit: 1655

	CA	Vainio et al. Identification of BMP-4 as a Signal Mediating Secondary Induction Between Epithelial and Mesenchymal Tissues During Early Tooth Development. *Cell* 75, 45-58 (1993).
	CB	Wang et al. Bone and Haematopoietic Defects in Mice Lacking c-fos. *Nature* 360, 741-745 (1992).
	CC	Yoon et al. Characterization of the Rat Osteocalcin Gene: Stimulation of Promoter Activity by 1, 25-Dihydroxyvitamin D_3. *Biochemistry* 27, 8521-8526 (1988).
	CD	Yu et al. Human Myocyte-Specific Enhancer Factor 2 Comprises a Group of Tissue-Restricted MADS Box Transcription Factos. *Genes & Devel.* 6, 1783-1798 (1992).

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

Patent and Trademark Office; U.S. DEPARTMENT OF COMMERERCE